PERSONAL

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Retirement

Professor Nobuyuki SUGITA

(High-Pressure Organic Chemistry Laboratory, Division of Organic Materials Chemistry)

On the 31st of March, 1995, Dr. Nobuyuki Sugita retired from Kyoto University after 37 years of service to the University, and was honored with the title of Professor Emeritus of Kyoto University.

Dr. Sugita was born in Hiroshima on the 26th of April, 1931. After graduation from the Department of Chemistry, Kyoto University, in 1955, he continued his study on high pressure chemistry as a graduate student at the Department of Fuel Chemistry, Kyoto University. In 1958, he was appointed an instructor of the Institute for Chemical Research, Kyoto University, under the supervision of Professor Emeritus Yoshimasa Takezaki. After receiving a doctoral degree from Kyoto University in 1966, he was promoted to an Associate Professor in 1967. On a leave of absence in the year 1976 to 1977, he worked on transition-metal catalysis under high pressure in cooperation with Professor R. F. Heck at the University of Delaware. In 1982, Dr. Sugita was appointed full Professor to direct the Division II of Organic Material Chemistry in this Institute. At the Division of Energy and Hydrocarbon Chemistry, Kyoto University, he gave lectures on high-pressure chemistry to graduate students.

His contribution to the Institute through both academic and administrative activities is hereby gratefully acknowledged, and his academic achievements are briefly described below.

Dr. Sugita's work has been concerned with high-pressure chemistry covering a wide area ranging from fundamental to applied chemistry. Also, throughout his study he has dealt with the so-called "C_1 chemistry," that is the effective transformation of carbon monoxide and dioxide which are abundant raw materials and the economical use of which is today's important issue from the viewpoint of environmental protection.

First to be mentioned of his contribution in these fields are the mechanistic study of carbonylation reactions utilizing various types of catalysts and its application. For acid-catalyzed reactions, he developed new synthetic methods in fuming sulfuric acid media. His detailed investigation on the use of HF/BF_3 catalyst system upon formylation of aromatic compounds was successfully applied to the industrial use. As an example of the base-catalyzed reactions, his novel method of malonic acid synthesis from potassium acetate in alkali-metal molten-salt media remarkably improved the efficiency of this reaction.

Dr. Sugita's extensive work on transition-metal catalyzed carbonylation reactions is noteworthy. He utilized an originally-designed IR cell, durable to high pressure and high temperature, for the in-situ observation of reactive intermediates as well as active catalyst. Dr. Sugita applied this method to develop various types of new carbonylation reactions and to clarify their mechanisms.

Another subject which Dr. Sugita devoted his effort was the activation and conversion of carbon dioxide into higher organic molecules. He obtained remarkable results regarding the carboxylation of amines and alcohols under pressurized carbon dioxide and hydrogen by the use of a rhodium catalyst. He also verified the presence of a carbon dioxide-organic base complex as a key intermediate in carbonylation of ketones and carboxylic acids. One of his recent results to be noted is the cesium carbonate-catalyzed synthesis of oxalic acid salt from carbon monoxide and dioxide.

Thus, through his study Dr. Sugita has shown us an ideal direction of the academic research that the successful application can be attained only by a thorough understanding of the fundamental phenomena. This principle will remain as a firm basis underlying the research work in the Institute.

Retirement

Professor Kenji SODA

(Molecular Microbial Science Laboratory, Division of Molecular Biofunction)

Dr. Kenji Soda, Professor of Microbial Biochemistry retired as a Professor Emeritus on the 31st of March, 1996 after having completed his 35 years of service at Kyoto University .

Dr. Soda was born in Aichi Prefecture on February 7, 1933. He graduated from Faculty of Agricultural and Biological Chemistry, Kyoto University in 1956 and continued his studies on microbial biochemistry under the supervision of the late Professor H. Katagiri. He graduated from the Doctor Course of Agricultural and Biological Chemistry, Kyoto University, and was awarded the degree of Ph.D. in 1961.

He started academic carrier as an instructor of the Departement of Agricultural and Biological Chemistry, Kyoto University to study microbial biochemistry and biotechnology with the late Professor K. Ogata, and Professor T. Tochikura in 1962. During 1963 and 1965, on leave from Kyoto University he stayed at Tufts University School of Medicine, Boston, Mass, U.S.A. as a visiting research fellow of Department of Biochemistry, and studied the biochemistry of amino acids with Professor A. Meister. In 1965, he was promoted to Associate Professor at the Laboratory of Microbial Biochemistry of the Institute for Chemical Research, Kyoto University. In 1981, Dr. Soda was appointed full Professor of Kyoto University, and directed the Laboratory of Microbial Biochemistry, Institute for Chemical Research. At the Graduate School of Agriculture, Kyoto University, he gave lectures on Microbial Biochemistry and Applied Microbiology and supervised the dessertation works of many graduate students.

Dr. Soda devoted himself to the Japanese Biochemical Society and officiated as President of the Society between 1992 and 1993. He was also the trustee of Japan Society of Bioscience, Biotechnology and Agrochemistry, Vitamin Society of Japan, and others. He was awarded the Prize of Agricultural Chemical Society of Japan for Young Scientists in 1969, the Prize of Vitamin Society of Japan in 1985, and the Prize of the Japan Society of Bioscience, Biotechnology and Agrochemistry in 1992.

He is also known as an alpinist. He was the president of Mountaineering Club of Kyoto University, and is the trustee of Academic Alpine Club of Kyoto.

For the past forty years, he extensively investigated various aspects of microbial biochemistry. He studied the structure and functions of biocatalysts produced by microorganisms, in particular, pyridoxal enzymes, NAD enzymes, and flavin enzymes: he characterized L-lysine ε-aminotransferase, D-amino acid aminotransferase, kynurenine aminotransferase, arginine racemase, alanine racemase, amino acid racemase with low substrate specificity, methionine γ-lyase, leucine dehydrogenase, alanine dehydrogenase, phenylalanine dehydrogenase, meso-α, ε-diaminopimelate D-dehydrogenase and others. He also carried out the research on the metabolism and biofunction of selenium-containing amino acids and peptides. He has found new enzymes participating in the selenium metabolism such as selenocysteine β-lyase and a new pathway of the microbial fluorine metabolism. He synthesized and characterized novel selenium-peptides serving as an antioxidant such as glutaselenone. He also engaged himself in the characterization and application of new biomolecules. For example, he has elucidated the molecular structure and functions of thermostable and thermolabile enzymes and studied their application. He established efficient systems for the enantioselective amino acid production with these enzymes. He discovered and characterized a few halo acid dehalogenases, and studied their structure and functions as well as new oxygenases and oxidases acting on nitro compounds. He modified and improved their properties by protein engineering and developed a new procedure to effectively decompose the nitro compounds in waste water by means of these enzymes.

Obituary

Professor Emeritus Dr. Eiji SUITO (1912-1995)

Professor Dr. Eiji SUITO, the ex-director of the Institute for Chemical Research, Professor Emeritus of Kyoto University and Professor Emeritus of Maizuru National College of Technology, and an Honorary Member of the Japanese Society of Electron Microscopy, suddenly passed away on July 6, 1995 in Kyoto.

He was born on January 23, 1912 in Kobe. After graduating from Kyoto University in March, 1936, with a degree in chemistry, as a graduate student he continued to study the chemical kinetics under the supervision of the late Professor Emeritus Shinkichi Horiba at the Department of Chemistry, the Faculty of Science, Kyoto University. He was conferred a D. Sc. by Kyoto University for his studies on colloid catalysis by thermal analysis.

Professor Suito was appointed an instructor at the Faculty of Science, Kyoto University in April, 1942, and joined the Institute for Chemical Research, Kyoto University, in May of the same year. He was appointed an Assistant Professor in November, 1945, and simultaneously became a full member of the Institute for Chemical Research. He was promoted to full Professor of the Institute in May, 1951, to direct the Laboratory of Crystal and Powder Chemistry. He introduced an electron microscope to his laboratory for the study of colloidal particles and fine powders. He gave lectures on crystal chemistry from 1965 at the Graduate School of Science, and supervised the dissertation works of many graduate students.

He was a visiting instructor at several universities including the Kyoto University of Industrial Arts and Textile Science (Kyoto Institute of Technology), Kobe University, Okayama University, Kumamoto University, Kagoshima University and Tokushima University.

Two years after he was appointed the Director of the Institute in April, 1972, Professor Suito made substantial and enthusiastic contributions to enhance and develop the Institute. He served as a member of the University Council and various committees on the campus and greatly contributed to the university administration. After retiring from Kyoto University, he served as president of Maizuru National College of Technology for 10 years.

For six years beginning in 1966, he played an important role as a member of the Science Council of Japan for the promotion of scientific research. He also served as Vice President of the Chemical Society of Japan, President of the Japanese Society of Electron Microscopy, President of the Clay Science Society of Japan, and as a member of the Board of Directors of many scientific societies. He was awarded the prize from the Chemical Society of Japan in 1970 for his physico-chemical studies on colloid and fine powder as well as the Seto Prize from the Japanese Society of Electron Microscopy in 1957. In addition, he was awarded prizes of many other scientific societies. His ability to develop research work was frequently recognized. He was a member of many international organizing committees. Professor Suito visited many foreign countries to attend various international congresses. His stimulating papers always attracted the interest of the audience. He was awarded a Purple Ribbon Medal in 1977 and the Rising Sun Order with Double Stars in 1988.